DRAFTSMAN

FIG.1

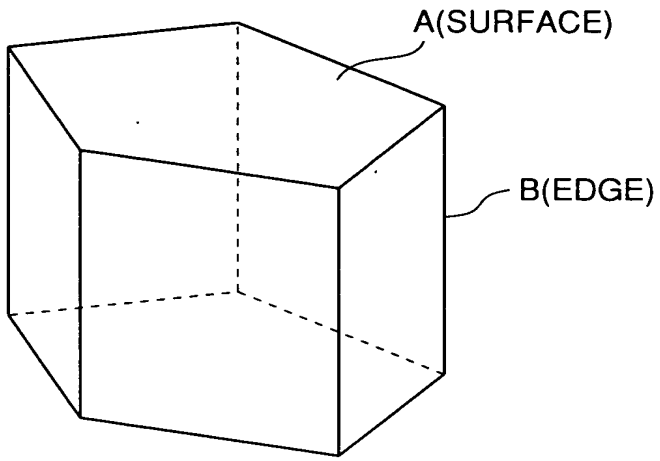


FIG.2

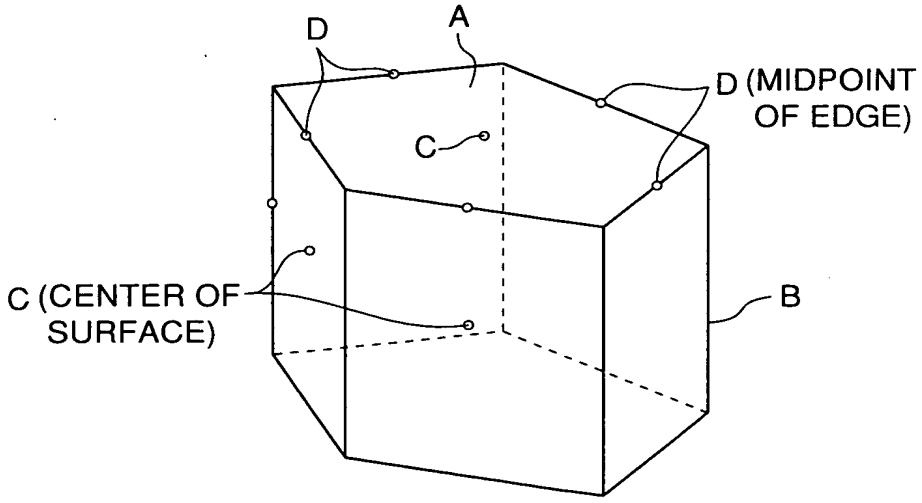


FIG.3

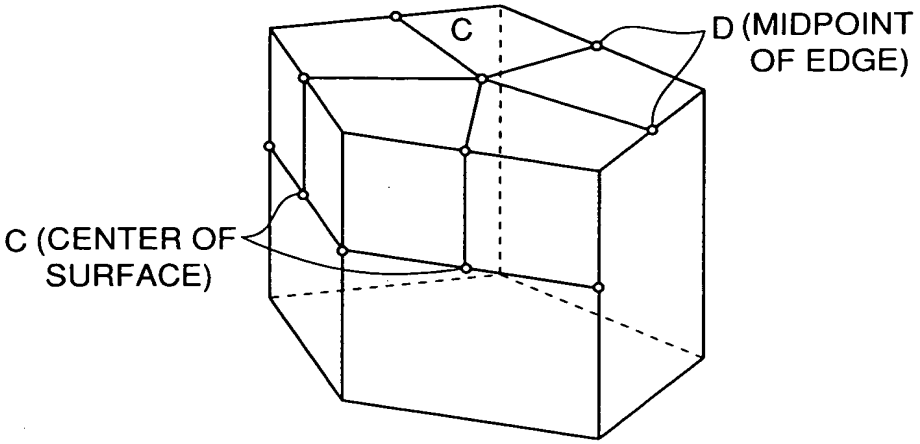

C
D (MIDPOINT OF EDGE)
C (CENTER OF SURFACE)

FIG.4

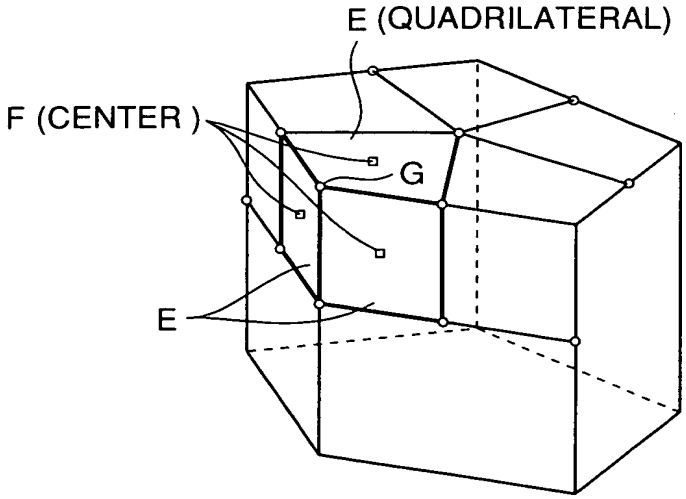

E (QUADRILATERAL)
F (CENTER)
G
E

FIG.5

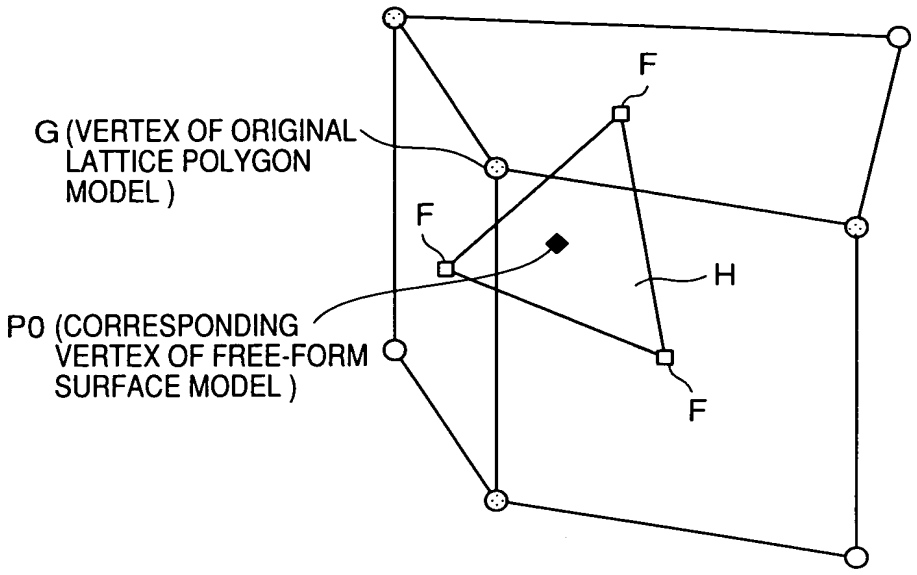

G (VERTEX OF ORIGINAL LATTICE POLYGON MODEL)
P0 (CORRESPONDING VERTEX OF FREE-FORM SURFACE MODEL)
F
F
H
F

FIG.6

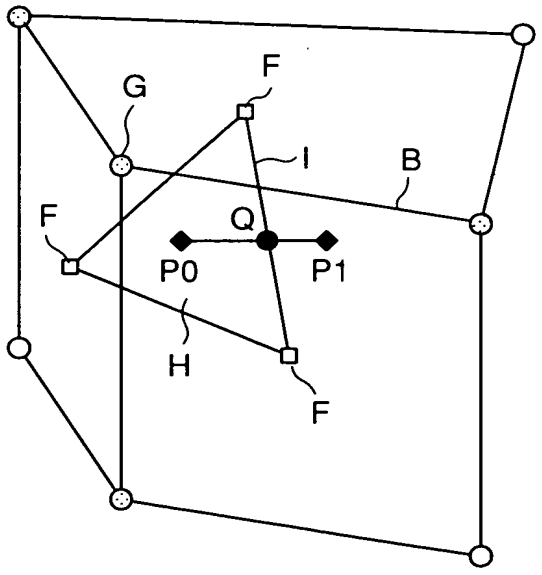

G
F
I
B
F
Q
P0
P1
H
F

FIG.7

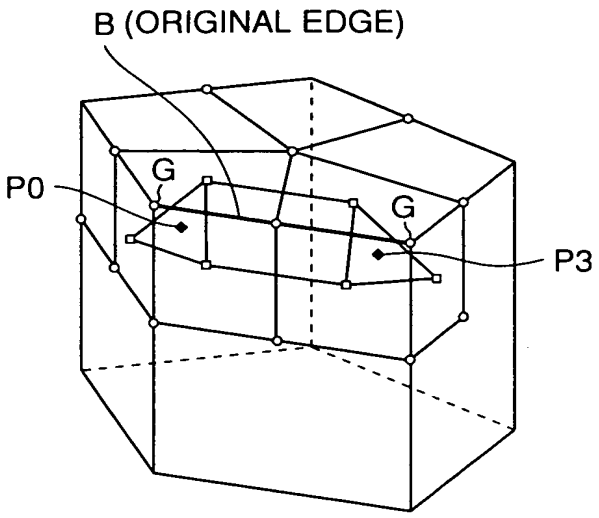
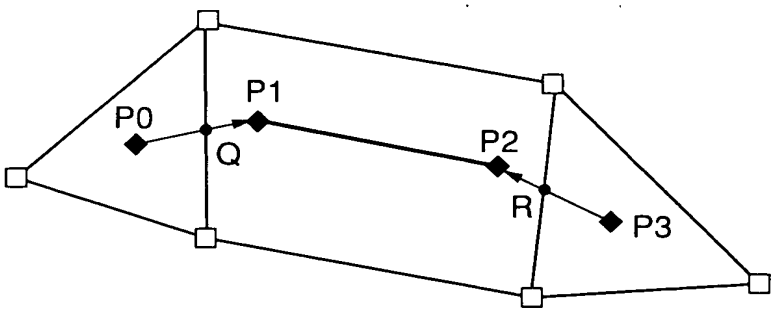


FIG.8



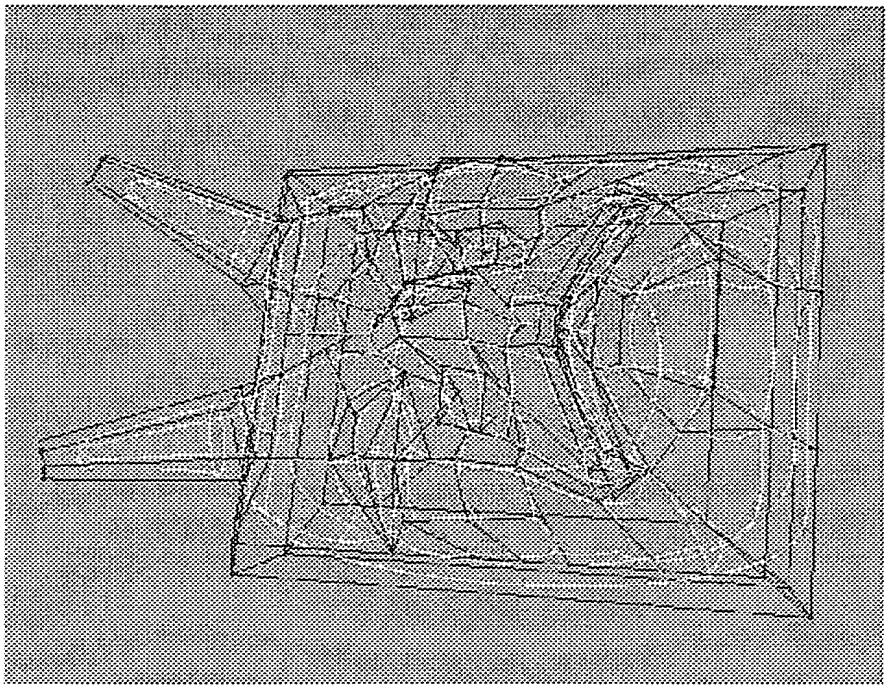


FIG.9B

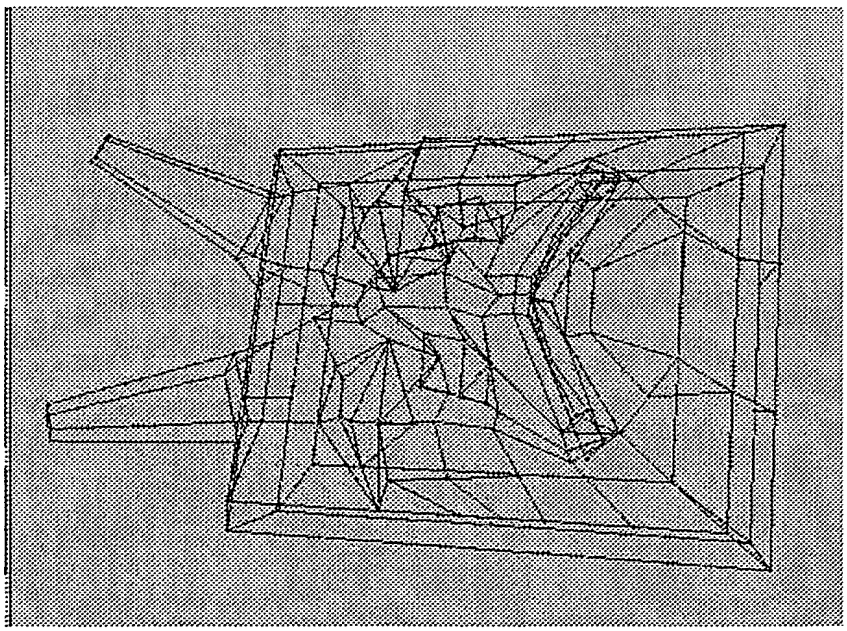
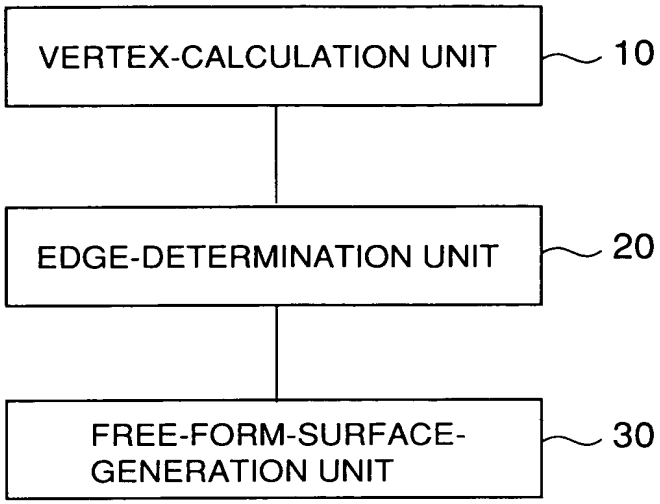


FIG.9A

0557-4939-2X060501

FIG.10



0557-4939-2X

FIG.11

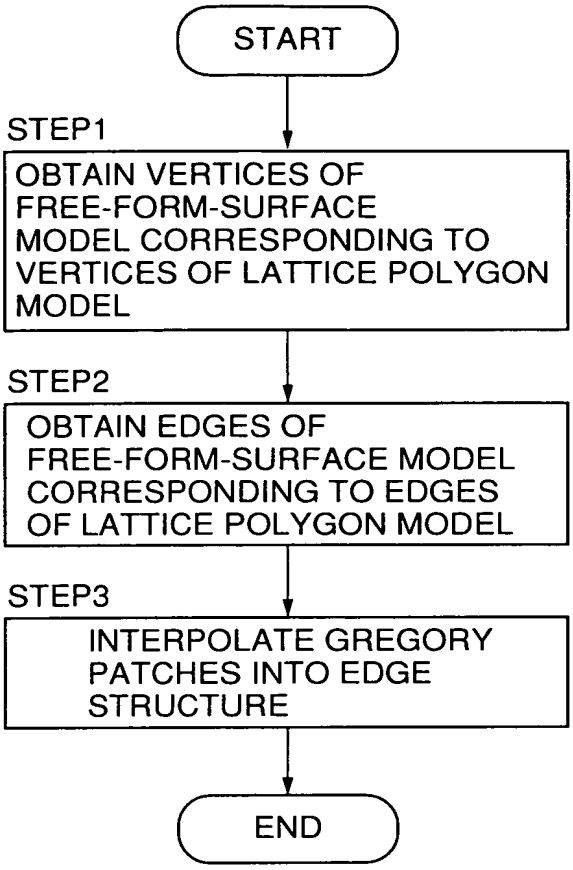

START
STEP1
OBTAIN VERTICES OF FREE-FORM-SURFACE MODEL CORRESPONDING TO VERTICES OF LATTICE POLYGON MODEL
STEP2
OBTAIN EDGES OF FREE-FORM-SURFACE MODEL CORRESPONDING TO EDGES OF LATTICE POLYGON MODEL
STEP3
INTERPOLATE GREGORY PATCHES INTO EDGE STRUCTURE
END

FIG.12

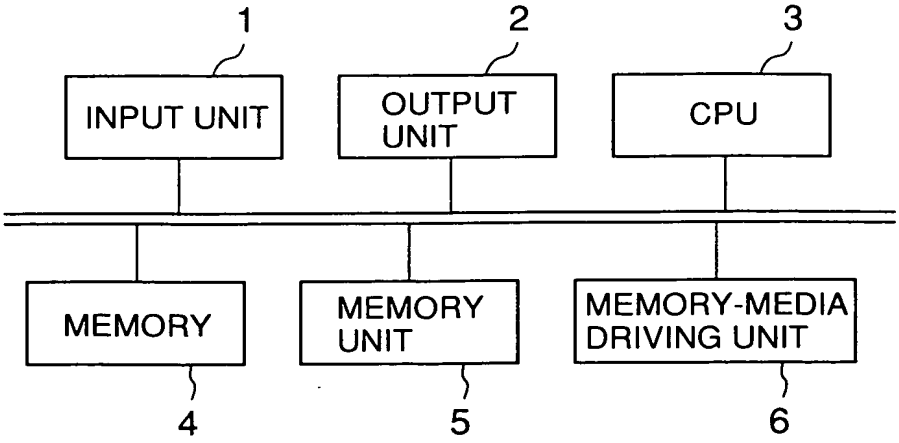

1
2
3
INPUT UNIT
OUTPUT UNIT
CPU
MEMORY
MEMORY UNIT
MEMORY-MEDIA DRIVING UNIT
4
5
6

FIG.13A

INDEX ↓	COORDINATES (x,y,z) LATTICE POLYGON MODEL	COORDINATES (x,y,z) OF FREE-FORM-SURFACE MODEL
P0		
P1		
P2		
:		
Pn		

FIG.13B

EACH ROW INCLUDING INDICES OF VERTEX-COORDINATE TABLE

P0	P1	P2		
P2	P1	P7	P5	
P5	P7	P3	P8	P4

FIG.13C

EACH ROW INCLUDING INDICES OF VERTEX-COORDINATE TABLE

START POINT	END POINT	CONTROL POINT 1	CONTROL POINT 2
P0	P1	C0	C1
P1	P2	C2	C3
P2	P3	C4	C5

FIG.13D

INDEX ↓	COORDINATES (x,y,z)
C0	
C1	
C2	
:	
Ck	

009TE0 "85592560

FIG.14

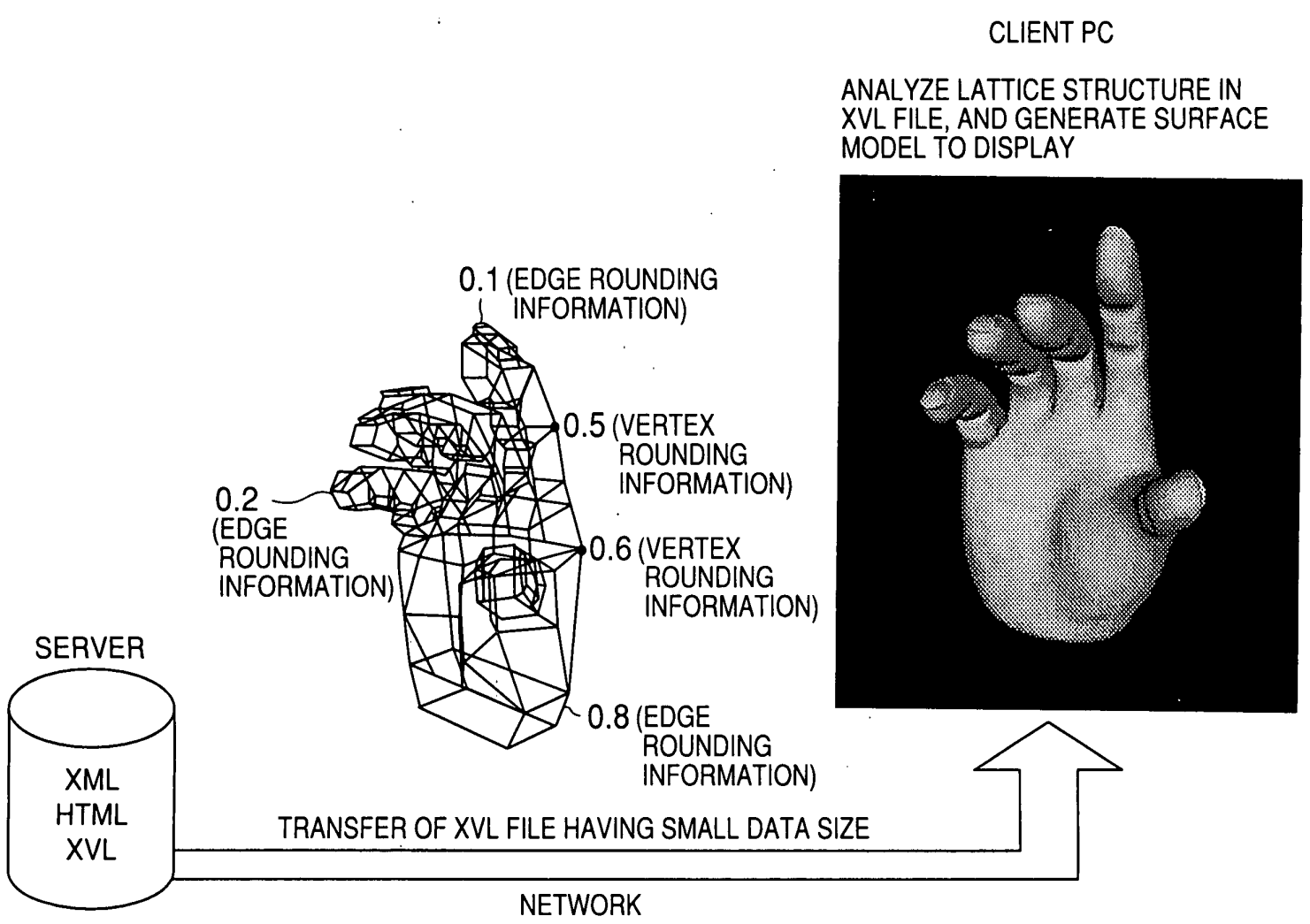


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FIG.15

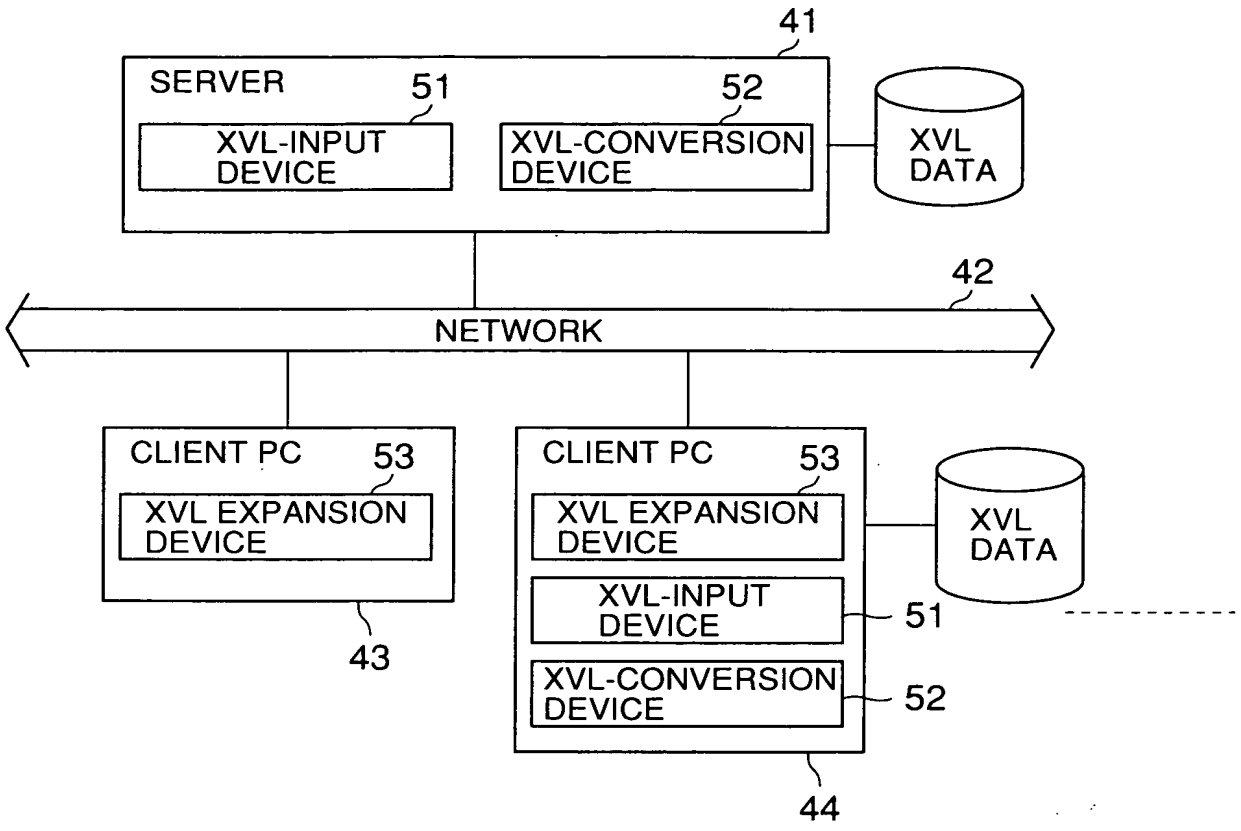
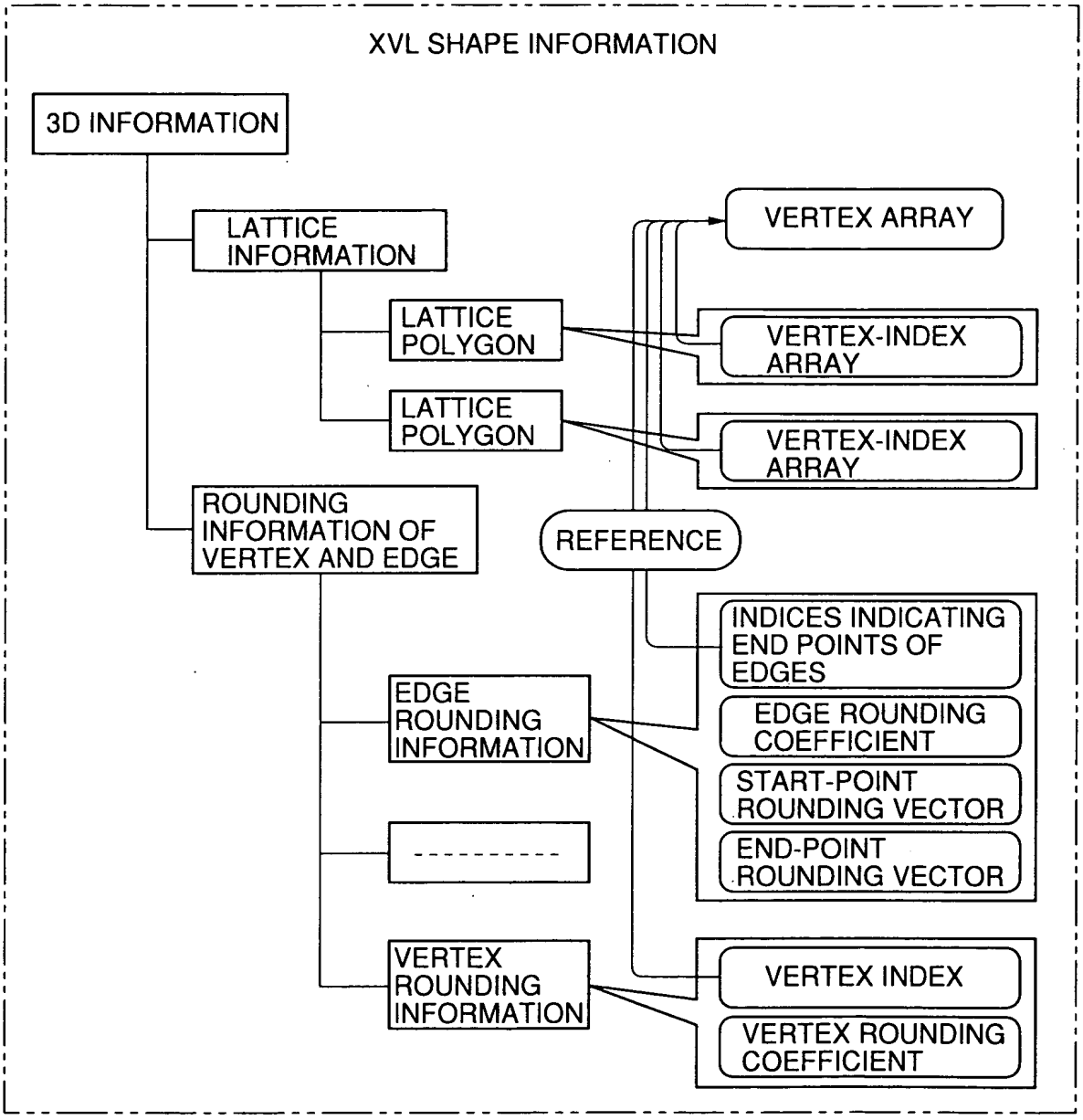
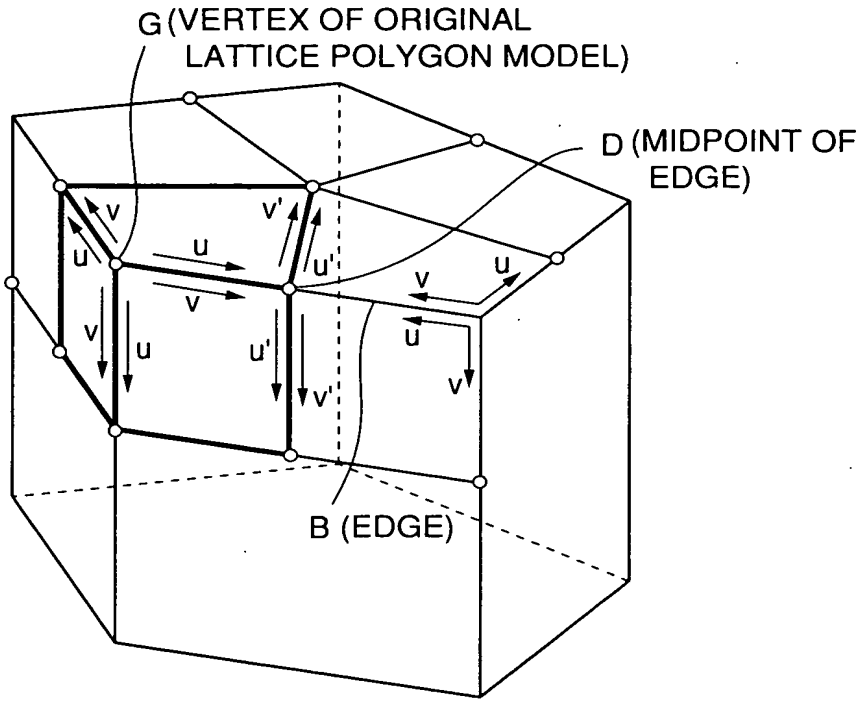

41
SERVER
51
52
XVL-INPUT DEVICE
XVL-CONVERSION DEVICE
XVL DATA
42
NETWORK
CLIENT PC
53
XVL EXPANSION DEVICE
43
CLIENT PC
53
XVL EXPANSION DEVICE
XVL DATA
XVL-INPUT DEVICE
51
XVL-CONVERSION DEVICE
52
44

FIG.16


XVL SHAPE INFORMATION
3D INFORMATION
LATTICE INFORMATION
LATTICE POLYGON
LATTICE POLYGON
ROUNDING INFORMATION OF VERTEX AND EDGE
EDGE ROUNDING INFORMATION

VERTEX ROUNDING INFORMATION
VERTEX ARRAY
VERTEX-INDEX ARRAY
VERTEX-INDEX ARRAY
REFERENCE
INDICES INDICATING END POINTS OF EDGES
EDGE ROUNDING COEFFICIENT
START-POINT ROUNDING VECTOR
END-POINT ROUNDING VECTOR
VERTEX INDEX
VERTEX ROUNDING COEFFICIENT

FIG.17


G (VERTEX OF ORIGINAL LATTICE POLYGON MODEL)
D (MIDPOINT OF EDGE)
B (EDGE)
u
v
u'
v'

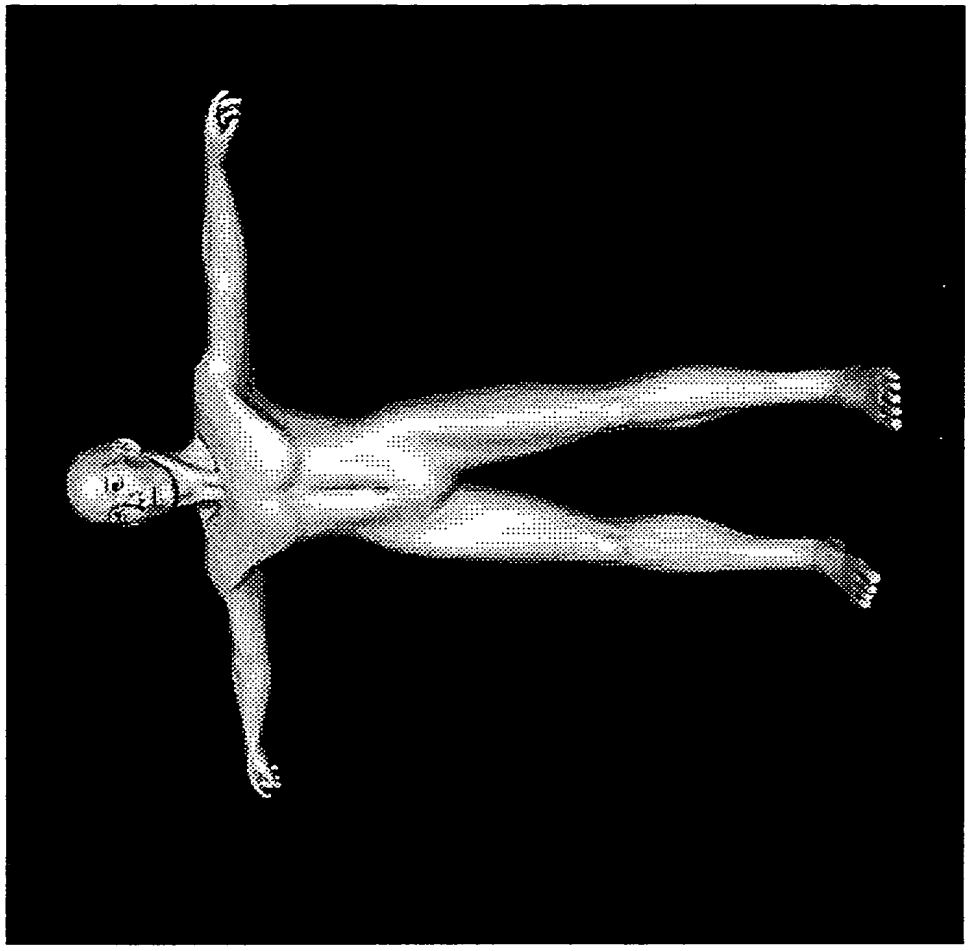


FIG.18B

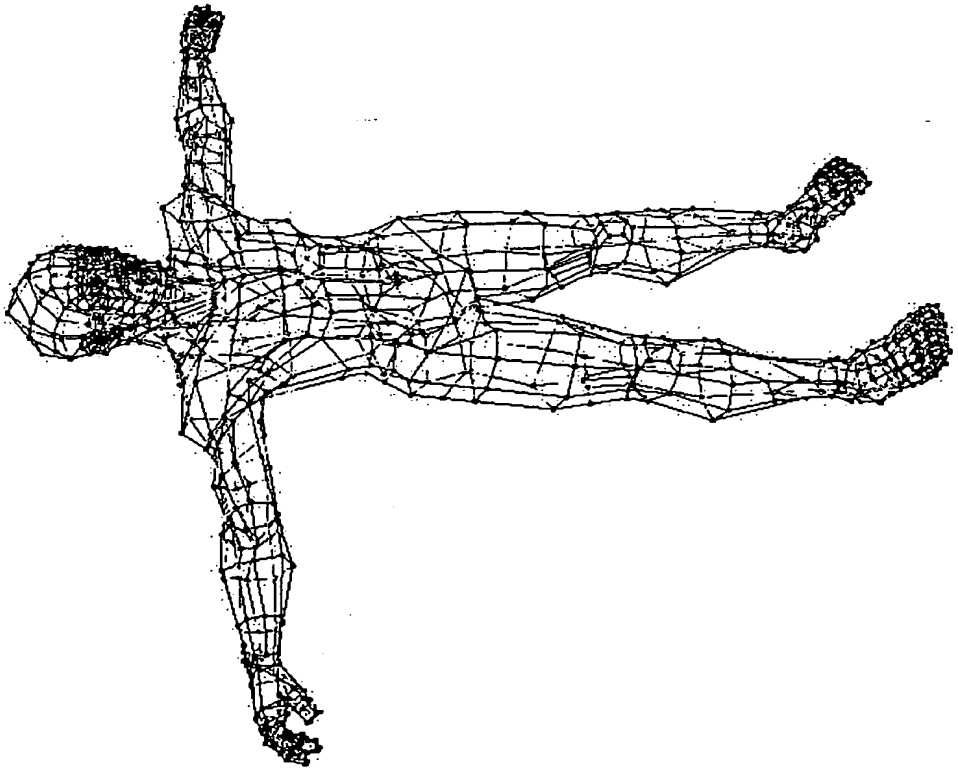


FIG.18A

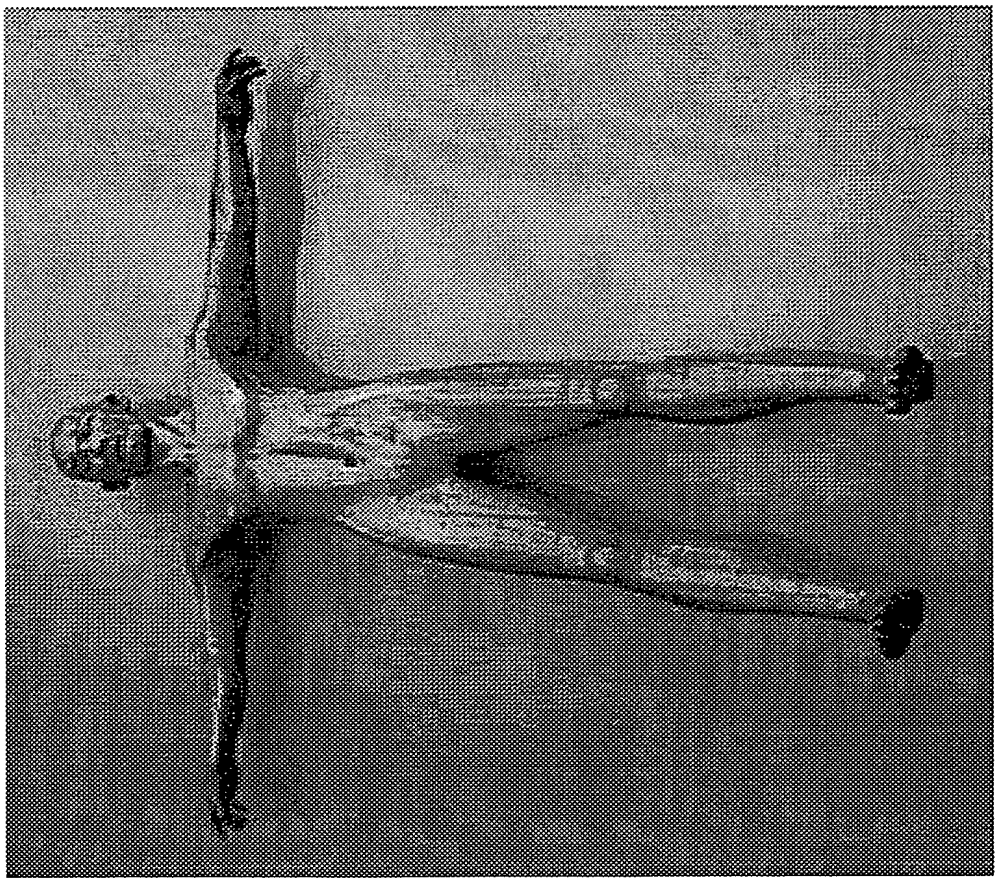


FIG.19